Dimensionally stable, evacuable container for medical purposes

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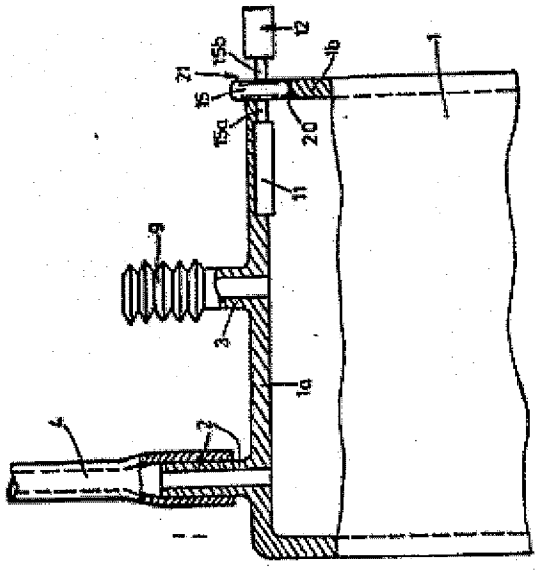
Abstract of **DE3524893**

A dimensionally stable container (1) having an evacuable interior comprises a first connection nozzle (2) connected with a supply line (4) in the form of a drainage tube or a drain and a second connection nozzle (3) accommodating a pressure indicator (9). A vacuum control and adjustment member (21) connected with the interior of the container and comprising a non-return valve (11), a filter (15) and a vacuum connection (12) is located directly or indirectly on the container (1). The vacuum control and adjustment member (21) is fitted and/or connected with a connection (12) designed as a negative Luer lock part for the selective attachment of a syringe or a coupling piece of a vacuum pump. However, it is also possible for the negative Luer lock connection (12) additionally to have a recess over which a union nut can be arranged, if appropriate, so that even syringes with union nuts can be firmly connected with the attachment, the union nut possibly having an additional connection piece for connecting a manometer.



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Description

The invention refers to a form-stable container for medical purposes, as collecting or suction bottle for secretions or such a thing, whose interior is evacuable, with first, with port connected to leading leading in form of a drainage hose or a drain and second, a pressure indicator female port (as addition to the patent application P 35 02 290,6).

Such containers became as vacuum August bottles in various embodiments known and form component of a drainage system for taking up from Wundhöhlen secretions which can be exhausted.

Adverse one is it that the vacuum present in the container interior must become with the time of the secretion admission reduced and thus the container against a new evacuated container exchanged, which a release of the drain and/or. the drain hose of the container requires and whereby an extreme contamination danger exists.

Object of the invention is it to create bottom avoidance of a contamination danger a container which excludes a replacement during a treatment phase, thus the drainage system closed remains, and whose vacuum in the interior can become continuous controlled and set, and which additional in simple manner that alternatively setting a syringe and a vacuum pump possible.

This object becomes according to invention by the characterizing features of the claim 1 dissolved, whereby still the organization characteristics listed in the Unteransprüchen represent favourable developments of problem solving.

The subject-matter of the invention extended itself not only on the features of the single claims, but also on their combination.

The container according to invention is with a vacuum control and - placing behind organ provided, which consists of a cheque valve, a bacteriadense filter and a terminal for a vacuum line or a vacuum pump.

By this vacuum - control and - placing behind organ knows the vacuum in the container continuous controlled and as desired and/or. the requirements corresponding after-regulated become, so that the conventional replacement of the container is void during a treatment phase and so that the contamination danger is switched off.

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The control and placing behind organ possess a terminal, which is formed of a negative Luer LOCK part with a cone in advantageous manner, so that this Luer LOCK part once setting a syringe and on the other hand the plug-on of a coupling part to the cone for the connection with a vacuum pump possible and thus the value and the use of the container still increased.

On the basis the designs embodiments according to the invention become subsequent more near explained. It shows:
Fig. 1 a side view in the partial section of a portion of a container with two ports for drain and a pressure indicator and a vacuum control integrated into the container and - placing behind organ,
Fig. 2 a side view of a container in form of a sucking and a collecting bottle with two ports for drain and a pressure indicator and a vacuum control connected at the ports of the pressure indicator and - placing behind organ,
Fig. 3 a longitudinal section by a terminal of the control and placing behind organ also in dash-dotted lines of represented, inserted syringe, with a not other represented recess with if necessary. disposed union nut, in order to have the possibility, possibly. to be able to attach a manometer, Fig.4 a longitudinal section by the terminal of the control and placing behind organ after Fig. 3, with attached coupling piece for the connection with a vacuum pump.

With cunning in itself form-stable a container, preferably from plastic and preferably from transparent plastic, designated, which can have the most diverse spatial designs (spatial forms) and which is evacuable.

The container 1 possesses two to the container 1 formed and of this wall 1a distant ports 2 and 3 next to each other disposed in the distance at a side, preferably at its top wall (front wall) la, whereby at the first port 2 a supply line 4 is in form of a drainage hose or drain a connected; this supply line can be 4 direct on or in the port 2 inserted or however bottom interposition of a connector (- hose) 5 with the port 2 connected, whereby the connection tube becomes 5 attached on the ports 2 and the supply line 4 then into the connection tube 5 inserted. Over 4 a clamp 6 can the connection tube 5 or around the supply line be arranged for locking the supply line 4 off.

At the second port 3 a pressure indicator is 9 attached, which can be in known manner likewise differently formed.

The container 1 is according to invention with a vacuum control and - placing behind organ 21 provided, which consists of a cheque valve 11, a filter 15 and a terminal 12 for a vacuum generator 14, and in and/or at a container wall 1a, 1b disposed or to a port 3 connected is.

In accordance with the embodiment after Fig. 1 is the vacuum control and - placing behind organ 21 into the container 1 in the distance to the ports 2, 3 integrated, and cheque valve the 11 in the top wall la the container 1 disposed, which stands however with the container interior in connection. Here that can be appropriate for cheque valve 11 perfect within the wall thickness of the wall 1a or manage however over these to the interior of the container 1; further the possibility exists to specify cheque valve the 11 at the wall 1a interiorlaterally. In vacuum generation direction are the rear cheque valve 11 and one behind the other the filter 15 and the vacuum connection 12 disposed, whereby the filter 15 is appropriate for that vacuum connection 12 in a recess of the container wall 1a and 1b and itself outside of the container 1 extended.

The filter 15 is 12 connected by approaches 15a and 15b on the one hand with the cheque valve 11 and on the other hand with the terminal.

To the terminal 12 either a pump becomes 14 direct connected as vacuum generators or however a vacuum line 13 attached leading to a vacuum generator 14.

In accordance with the other embodiment after Fig. 2 is the container 1 as sucking or collecting bottle formed, on whose upper front wall 1a the two ports 2, 3 formed stand out. At the port 2 is bottom interposition of a connector (- hose) 5 the supply line (drainage hose or drain) 4 connected and the supply line 4 is lock offable by a clamp 6 disposed around the connector 5.

At the second port 3 a Y-connector is 7 attached, its tubular Y-branch 8 a pressure indicator 9 of the most diverse type, z. B. to form of bellows, and at its other Y-branch the vacuum control and - take up 10 placing behind organ 21 connected is, which in vacuum generation direction (in longitudinal direction of this Y-branch 10 outward) one behind the other cheque valve the 11, which filter 15 and the vacuum connection 12 exhibit.

The Y-connector 7 becomes with its lower pipe socket 16 bottom interposition of a connector 17, preferably connection tube, with the second port 3 connected, as the pipe socket 16 is attached into the upper end of the connection tube 17 inserted and the connection tube 17 with its bottom end on the ports 3.

That the pressure indicator 9 female Y-branch 8 runs in geradlinieger extension of the pipe socket 16 of the Y-connector 7 and the second Y-branch 10 goes off oblique upward and lateral.

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On this second Y-branch 10 again a connector 18, preferably a connection tube, is on inserted, which takes up cheque valve at its other end the 11. The filter 15 is attached with an approach 15a to cheque valve the 11 and takes up in a coaxial approach 15b than pipe sockets the formed vacuum connection 12 outgoing in addition on the other filter side.

At this terminal 12 a vacuum line 13 can be attached or to be set however a direct vacuum pump 14.

With 19 an actual known and at the container 1 is just like the two ports 2. 3 integral formed hanging up eye or such designated.

This container 1 becomes used as collection containers for secretion, whereby it can become inserted with a suction drainage or an expiration drainage.

By into the container 1 integrated or 3 vacuum control and - placing behind organ 21 will the controlled continuous in the container 1 located vacuum and can at any time changed (after-evacuated) if necessary become, without with it an influence on the entire drainage system made - connected over the Y-connector 7 with the port the supply line 4 does not become 1 separate of the container.

By cheque valve the 11 and the filter 15 do not arrive and also after after the creation or the Nachregulierung of the vacuum in the container 1 bacteria or other health-endangering particles into the container 1 inside and thus also not into the supply line 4, which results in an high safety. The filter 15 is in prefered manner of a bacteriadense filter

formed.

The vacuum control and - placing behind organ 21 forms an assembly, which is solid or releasable 1 connected with the container.

It lies in the scopes of the invention, the vacuum control and - placing behind organ 21 also without filters 15 to use.

In accordance with Fig. 3 and 4 is the terminal 12 as negative Luer LOCK part for that alternatively setting a syringe 22 or a coupling piece 23 of a vacuum pump 14 formed. This negative Luer LOCK part 12 participates as part of the control and placing behind organ 21 performed or 21 connected as separate part with the organ.

Luer LOCK part 12 sits down in known manner from a pipe socket 24 with free-finallateral collar 25 together and on this pipe socket 24 is a solid or movable cone 26 disposed, to that itself from the collar 25 out in tube end longitudinal direction in the cross section extended.

Into this Luer LOCK part 12 on the one hand a syringe can become 22 inserted, which intervenes thereby with its cone 22a in the pipe socket 24, or to the cone 26 a coupling piece 23 with a funnel part 23a is attached, whereby this coupling piece 23 a connection to a vacuum pump possible.

In addition, it exists the possibility that the negative Luer LOCK terminal 12 exhibits an additional recess, over those if necessary. an union nut disposed will can, so that also syringes with union nuts solid with the approach can be konnektiert, whereby the union nut possibly. exhibits an additional nozzle, in order to be able to attach a manometer.

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